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Comments for the Authors

This page will be sent to the authors.

At first, I was very skeptical about this paper. What piqued my skepticism was the second sentence of the abstract. To state that conventional wisdom is challenged is a red herring. Of course there is the word sole but that is lost in the sentence. This research does not compare the two sources of lead. The major contribution of this paper is that it demonstrates that wheel weights are yet another automotive source of lead along busy streets of urban environments.

[For the record, leaded gasoline was banned in most states on January 1, 1986. No one denies that at peak use, 250,000 metric tons of lead was added to gasoline per year. The consequences were large. For example, in the late 60's and early 70's, at each busy intersection with 100,000 cars traveling through it per day, about 5 metric tons of lead aerosols per year were emitted within ½ mile radius of each busy intersection (and this is a conservative estimate). This compares with 3 metric tons per year estimates for all thoroughfares of Albuquerque.]

Given my skepticism, I decided to test the authors hypotheses. I walked along one side of several intersections of a very busy street. In 4 blocks I picked up 0.621 kg of lead wheel weights. There is indeed a lot of lead being thrown into the environment along busy streets and I commend the author for bringing attention to this topic. There are some additional sources of information that support the discussion and might be included.

General comments. After finding the sizable number of weights, I visited my local expert on these matters, my tire dealer and he offered the following:

- He estimated that 30 to 40 percent of the wheels brought in for tire work were missing all of their weights. The other 60 to 70 percent may be missing at least one of their weights. This supports the observations in the paper.
- He showed me the differences between wheel rims and the reasons for some of the losses. Some rims hold the weights extremely well. Some car manufacturers produce wheels with shallow or straight ledges that do not hold weights well. Some of the more expensive custom wheels do not have a rim to place wheel weights (as indicated in the article). To balance these wheels require weights attached with adhesive and these weights easily fly off from centrifugal force. Many custom wheels can only be balanced by adding weights to the backside of the wheel and this makes the wheel wobble prone. It is a difficulty to my tire dealer and he is sometimes confronted by angry customers because these wheels don't stay balanced.

(Use additional pages if needed)